OTS PRICE

XEROX $ 1.60 ph.

MICROFILM $ 0.80 mf.

SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 3 NO. 25 DECEMBER 31, 1963

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED BY THE GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN ASTROPHSICAL OBSERVATORY AS OF 1200Z ON DECEMBER 31, 1963.

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1958 LAUNCHES								
ALPHA 1	EXPLORER 1	US	1 FEB	104.6	33.19	1629	342	
BETA 1	ROCKET BODY	US	17 MAR	138.3	34.26	4325	646	
BETA 2	VANGUARD 1	US	17 MAR	133.9	34.33	3929	661	108.012 &
1959 LAUNCHES								
ALPHA 1	VANGUARD 2	US	17 FEB	125.2	32.88	3273	568	
ALPHA 2	ROCKET BODY	US	17 FEB	129.5	32.90	3663	555	
ETA 1	VANGUARD 3	US	18 SEP	129.7	33.34	3758	471	
MU 1*	LUNIK 1	USSR	2 JAN	450 D	0.01	1.315AU	0.9766AU	
NU 1*	PIONEER 4	US	3 MAR	398 D	1.30	1.142AU	0.9871AU	
IOTA 1	EXPLORER 7	US	13 OCT	101.1	50.33	1075	551	
IOTA 2	ROCKET BODY	US	13 OCT	100.9	50.29	1044	561	
1960 LAUNCHES								
ALPHA 1*	PIONEER 5	US	11 MAR	312 D	3.35	0.995AU	0.8061AU	
BETA 1	ROCKET BODY	US	1 APR	99.0	48.39	736	697	
BETA 2	TIROS 1	US	1 APR	99.1	48.38	747	693	
BETA 3	NONE	US	1 APR	97.8	48.48	705	610	
BETA 4	NONE	US	1 APR	99.8	48.15	803	704	
GAMMA 2	TRANSIT 1B	US	13 APR	94.0	51.29	601	346	
GAMMA 4	NONE	US	13 APR	96.7	51.24	719	488	
EPSILON 3	NONE	USSR	15 MAY	91.6	64.96	452	255	
ZETA 1	MIDAS 2	US	24 MAY	94.2	33.04	492	480	
ETA 1	TRANSIT 2A	US	22 JUN	101.6	66.68	1057	613	
ETA 2	GREB	US	22 JUN	101.6	66.67	1055	613	
ETA 3	ROCKET BODY	US	22 JUN	101.4	66.65	1035	614	

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1960 LAUNCHES (CONT'D)								
IOTA 1	ECHO 1	US	12 AUG	114.7	47.21	1674	1218	
IOTA 2	ROCKET BODY	US	12 AUG	118.0	47.25	1696	1492	
IOTA 3	METAL OBJECT	US	12 AUG	118.2	47.23	1700	1504	
IOTA 4	METAL OBJECT	US	12 AUG	INSUFFICIENT OBSERVATIONS				
IOTA 5	METAL OBJECT	US	12 AUG	118.3	47.27	1674	1546	
NU 1	COURIER 1B	US	4 OCT	106.9	28.35	1226	953	
NU 2	ROCKET BODY	US	4 OCT	106.4	28.25	1201	933	
XI 1	EXPLORER 8	US	3 NOV	112.3	49.97	2258	412	
XI 2	ROCKET BODY	US	3 NOV	111.9	49.93	2230	404	
XI 3	NONE	US	3 NOV	109.4	49.40	2002	204	
XI 4	NONE	US	3 NOV	110.7	50.50	2096	426	
PI 1	TIROS 2	US	23 NOV	98.2	48.53	748	601	
PI 2	ROCKET BODY	US	23 NOV	98.0	48.52	709	629	
PI 3	NONE	US	23 NOV	98.1	48.53	727	615	
PI 4	NONE	US	23 NOV	98.2	48.50	731	624	
1961 LAUNCHES								
ALPHA 1	SAMOS 2	US	31 JAN	94.8	97.42	545	466	
ALPHA 2	METAL OBJECT	US	31 JAN	94.7	97.42	540	464	
GAMMA 1*	VENUS PROBE	USSR	12 FEB	300 D	0.58	1.019AU	0.7183AU	
DELTA 1	EXPLORER 9	US	16 FEB	110.7	38.95	2164	366	
DELTA 2	ROCKET BODY	US	16 FEB	118.4	38.84	2584	648	
DELTA 3	NONE	US	16 FEB	INSUFFICIENT OBSERVATIONS				
KAPPA 1	EXPLORER 10	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	US	27 APR	107.8	28.77	1788	475	
OMICRON 1	TRANSIT 4A	US	29 JUN	103.8	66.80	999	879	105;400
OMICRON 2	INJUN-SR-3	US	29 JUN	103.8	66.80	998	881	
OMICRON 3-206**	METAL OBJECTS	US	29 JUN					
RHO 1	TIROS 3	US	12 JUL	100.3	47.88	818	738	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ.(MC/S)
1961 LAUNCHES (CONT'D)								
RHO 2	ROCKET BODY	US	12 JUL	100.3	47.90	799	751	
RHO 3	METAL OBJECT	US	12 JUL	98.8	47.93	796	610	
RHO 4	METAL OBJECT	US	12 JUL	101.9	47.84	941	766	
SIGMA 1	MIDAS 3	US	12 JUL	161.5	91.20	3582	3307	
SIGMA 3	METAL OBJECT	US	12 JUL	161.2	91.22	3559	3302	
SIGMA 4	METAL OBJECT	US	12 JUL	161.9	91.19	3572	3350	
UPSILON 1	EXPLORER 12	US	16 AUG	INSUFFICIENT OBSERVATIONS				
A DELTA 1	MIDAS 4	US	21 OCT	166.0	95.90	3767	3484	
A DELTA 3	METAL OBJECT	US	21 OCT	165.6	95.78	3714	3505	
A DELTA 4	METAL OBJECT	US	21 OCT	166.4	95.86	3782	3499	
A ETA 1	TRANSIT 4B	US	15 NOV	105.6	32.43	1103	959	
A ETA 2	TRAAC	US	15 NOV	105.6	32.43	1104	961	
A ETA 3	ROCKET BODY	US	15 NOV	105.5	32.43	1092	957	
1962 LAUNCHES								
ALPHA 1*	RANGER 3	US	26 JAN	406.4D	.3988	1.163AU	0.9839AU	
ALPHA 2	ROCKET BODY	US	26 JAN	INSUFFICIENT OBSERVATIONS				
BETA 1	TIROS 4	US	8 FEB	100.3	48.32	839	713	
BETA 2	ROCKET BODY	US	8 FEB	101.3	48.14	943	703	
BETA 3	METAL OBJECT	US	8 FEB	99.4	48.40	768	699	
BETA 4	METAL OBJECT	US	8 FEB	100.2	48.27	836	710	
ZETA 1	ORB.SOL.OBS.1	US	7 MAR	95.9	32.83	589	549	
ZETA 2	ROCKET BODY	US	7 MAR	95.9	32.84	591	548	
KAPPA 1		US	9 APR	153.0	86.66	3411	2783	
KAPPA 3		US	9 APR	152.7	86.59	3366	2798	
KAPPA 4		US	9 APR	153.4	86.65	3425	2798	
MU 2	ROCKET BODY	US	23 APR	INSUFFICIENT OBSERVATIONS				
OMICRON 1	ARIEL	US/UK	26 APR	100.6	53.85	1180	394	136.406
OMICRON 2	ROCKET BODY	US/UK	26 APR	100.5	53.84	1186	380	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)								
A ALPHA 1	TIROS 5	US	19 JUN	100.4	58.09	980	582	
A ALPHA 2	ROCKET BODY	US	19 JUN	100.4	58.09	972	582	
A ALPHA 3	METAL OBJECT	US	19 JUN	101.7	58.21	1079	604	
A ALPHA 4	METAL OBJECT	US	19 JUN	99.1	57.99	865	566	
A EPSILON 1	TELSTAR 1	US	10 JUL	157.6	44.80	5645	940	
A EPSILON 2	ROCKET BODY	US	10 JUL	157.5	44.79	5632	940	
A OMICRON 1		US	23 AUG	99.6	98.68	852	620	
A OMICRON 2		US	23 AUG	98.3	98.68	759	592	
A OMICRON 3		US	23 AUG	100.9	98.66	962	631	
A OMICRON 4		US	23 AUG	99.6	98.68	846	625	
A RHO 1*	MARINER	US	27 AUG	COMPUTATIONS IN PROGRESS				
A RHO 2*	ROCKET BODY	US	27 AUG	COMPUTATIONS IN PROGRESS				
A UPSILON 1		US	1 SEP	92.4	82.80	495	283	
A PSI 1	TIROS 6	US	18 SEP	98.7	58.32	716	680	
A PSI 2	ROCKET BODY	US	18 SEP	98.6	58.31	709	682	
A PSI 3	METAL OBJECT	US	18 SEP	99.4	58.44	756	702	
A PSI 4	METAL OBJECT	US	18 SEP	98.0	58.19	685	645	
B ALPHA 1	ALOUETTE	CANADA	29 SEP	105.5	80.47	1029	1004	136.979;$136.592 $136.077
B ALPHA 2	ROCKET BODY	US	29 SEP	105.5	80.46	1023	1005	
B ALPHA 3	METAL OBJECT	US	29 SEP	105.4	80.48	1032	990	
B ALPHA 4	METAL OBJECT	US	29 SEP	105.5	80.41	1031	1002	
B GAMMA 1	EXPLORER 14	US	2 OCT	2184.6	41.16	96222	2567	136.441
B GAMMA 2	ROCKET BODY	US	2 OCT	INSUFFICIENT OBSERVATIONS				
B ETA 1*	RANGER 5	US	18 OCT	366 D	.39011	1.052AU	.9490AU	
B ETA 2*	ROCKET BODY	US	18 OCT	COMPUTATIONS IN PROGRESS				
B THETA 1		USSR	20 OCT	92.1	48.95	532	232	
B KAPPA 1		US	26 OCT	138.2	71.41	4745	206	
B LAMBDA 1	EXPLORER 15	US	27 OCT	314.2	17.98	17565	318	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ.(MC/S)
1962 LAUNCHES(CONT'D)								
B LAMBDA 2	ROCKET BODY	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	US	31 OCT	107.8	50.14	1172	1088	162;324
B MU 2	ROCKET BODY	US	31 OCT	107.5	50.15	1163	1069	
B NU 3*		USSR	1 NOV	519 D	2.683	1.604AU	9237AU	
B TAU 1		US	13 DEC	112.0	70.33	2402	230	
B TAU 2	INJUN 3	US	13 DEC	113.9	70.33	2574	235	
B TAU 4		US	13 DEC	119.8	70.33	2207	225	
B TAU 5		US	13 DEC	111.9	70.33	2394	228	
B TAU 6		US	13 DEC	113.4	70.34	2530	237	
B UPSILON 1	RELAY 1	US	13 DEC	185.0	47.51	7438	1323	136.140;$136.620
B UPSILON 2	ROCKET BODY	US	13 DEC	184.8	47.90	7468	1274	
B CHI 1	EXPLORER 16	US	16 DEC	104.3	52.05	1194	736	
B PSI 1	TRANSIT 5A	US	19 DEC	99.1	90.63	728	701	
B PSI 2		US	19 DEC	97.8	90.75	716	587	
B PSI 3		US	19 DEC	99.1	90.63	732	697	
B PSI 4		US	19 DEC	100.3	90.48	838	699	
1963 LAUNCHES								
1963 3A		US	16 JUN	94.6	81.89	530	461	
1963 3C		US	16 JAN	89.2	81.82	335	333	
1963 4A	SYNCOM	US	14 FEB	INSUFFICIENT OBSERVATIONS				
1963 4B	ROCKET BODY	US	14 FEB	604.4	33.12	34374	253	
1963 5A		US	19 FEB	97.8	100.50	797	501	
1963 5B		US	19 FEB	97.8	100.50	794	504	
1963 5C		US	19 FEB	97.0	100.49	748	476	
1963 5D		US	19 FEB	98.4	100.49	838	523	
1963 8B		USSR	2 APR	COMPUTATIONS IN PROGRESS				
1963 9A	EXPLORER 17	US	3 APR	95.5	57.62	844	246	
1963 13A	TELSTAR 2	US	7 MAY	225.2	42.76	10813	962	136.050

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)								
1963 13B	ROCKET BODY	US	7 MAY	225.0	42.73	10796	967	
1963 14A		US	9 MAY	166.5	87.40	3649	3640	
1963 14B		US	9 MAY	166.5	87.35	3673	3618	
1963 14C		US	9 MAY	INSUFFICIENT OBSERVATIONS				
1963 14D		US	9 MAY	166.5	87.36	3676	3611	
1963 14E		US	9 MAY	166.1	87.47	3669	3591	
1963 14F		US	9 MAY	166.9	87.34	3697	3623	
1963 14G		US	9 MAY	166.4	87.33	3641	3640	
1963 14H		US	9 MAY	166.5	87.42	3703	3588	
1963 17A		USSR	22 MAY	93.7	49.00	665	253	
1963 17C		USSR	22 MAY	95.0	49.19	704	341	
1963 17G		USSR	22 MAY	91.9	49.04	494	251	
1963 22A		US	16 JUN	99.8	90.01	765	723	150;400
1963 22B		US	16 JUN	99.8	90.02	765	723	
1963 22C		US	16 JUN	101.3	90.20	904	729	
1963 22D		US	16 JUN	98.2	89.83	764	578	
1963 24A	TIROS 7	US	19 JUN	97.4	58.22	652	619	136.233;136.922
1963 24B	ROCKET BODY	US	19 JUN	97.3	58.23	639	627	
1963 24C	METAL OBJECT	US	19 JUN	97.9	58.37	663	652	
1963 24D	METAL OBJECT	US	19 JUN	96.9	58.09	638	582	
1963 25B		US	27 JUN	132.5	82.13	4124	332	
1963 26A	RESEARCH SATELLITE FOR GEOPHYSICS	US	28 JUN	102.0	49.75	1291	426	
1963 27A		US	29 JUN	94.8	82.32	529	481	
1963 27B		US	29 JUN	94.1	82.32	483	465	
1963 30A		US	19 JUL	167.9	88.35	3752	3651	
1963 30B		US	19 JUL	167.9	88.41	3730	3673	136.891
1963 30C		US	19 JUL	167.5	88.41	3701	3674	
1963 30D		US	19 JUL	168.0	88.59	3816	3597	
1963 30E		US	19 JUL	168.3	88.44	3776	3661	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)								
1963 31A	SYNCOM 2	US	26 JUL	1436.2	33.88	35794	35786	$136.980;$136.468 $1814.069;$1815.794 $1820.177
1963 31B	ROCKET BODY	US	26 JUL	INSUFFICIENT OBSERVATIONS				
1963 33A		USSR	6 AUG	91.0	49.03	406	245	
1963 38A		US	28 SEP	107.1	89.91	1120	1063	
1963 38B		US	28 SEP	107.4	89.90	1134	1074	
1963 38C		US	28 SEP	107.4	89.91	1140	1068	136.651
1963 38D		US	28 SEP	107.4	89.93	1138	1069	
1963 39A		US	17 OCT	INSUFFICIENT OBSERVATIONS				
1963 39B		US	17 OCT	INSUFFICIENT OBSERVATIONS				
1963 39C		US	17 OCT	INSUFFICIENT OBSERVATIONS				
1963 42A		US	29 OCT	89.7	89.90	272	239	
1963 42B		US	29 OCT	93.2	89.98	564	288	
1963 43A	POLYOT 1	USSR	1 NOV	102.4	58.87	1410	335	
1963 43B		USSR	1 NOV	102.1	58.60	1384	332	
1963 43C		USSR	1 NOV	100.5	58.90	1284	279	
1963 43D		USSR	1 NOV	101.7	59.81	1348	334	
1963 46A	EXPLORER 18	US	27 NOV	5584.	33.35	195572	194	136.110
1963 47A	CENTAUR 2	US	27 NOV	107.7	30.39	1771	484	
1963 47B		US	27 NOV	107.1	30.08	1618	584	
1963 47C		US	27 NOV	107.4	30.08	1644	581	
1963 47D		US	27 NOV	107.9	29.94	1637	637	
1963 47E		US	27 NOV	108.2	30.62	1797	509	
1963 47F		US	27 NOV	108.5	30.49	1741	588	
1963 47G		US	27 NOV	107.7	30.00	1650	605	
1963 49A		US	5 DEC	106.9	89.98	1080	1076	
1963 49B		US	5 DEC	107.2	89.97	1117	1071	

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)								
1963 49C		US	5 DEC	107.2	89.97	1108	1077	
1963 49D		US	5 DEC	107.1	89.97	1110	1071	
1963 49E		US	5 DEC	101.2	89.97	1115	1071	
1963 50A	COSMOS 23	USSR	13 DEC	92.4	48.99	560	232	
1963 50B		USSR	13 DEC	92.3	49.02	561	222	
1963 50C		USSR	13 DEC	89.6	48.94	291	225	
1963 52B		USSR	19 DEC	90.1	65.01	358	199	
1963 53A	EXPLORER 19	US	19 DEC	115.9	78.61	2399	590	136.621
1963 53B		US	19 DEC	115.9	78.62	2387	596	
1963 53C		US	19 DEC	116.0	78.64	2399	597	
1963 53D		US	19 DEC	116.0	78.59	2398	596	
1963 53E		US	19 DEC	115.9	78.60	2396	594	
1963 53F		US	19 DEC	115.9	78.62	2398	592	
1963 53G		US	19 DEC	115.9	78.60	2395	591	
1963 54A	TIROS 8	US	21 DEC	99.3	58.49	763	693	136.230;136.920
1963 54B		US	21 DEC	99.3	58.49	753	697	
1963 54C		US	21 DEC	101.0	58.46	929	690	
1963 55A		US	21 DEC	89.3	64.87	305	172	
1963 55B.		US	21 DEC	91.7	64.52	395	316	

* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.

** TWO HUNDRED AND FOUR METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1961 OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LISTS.

$ TRANSMITTING ON COMMAND ONLY.

& TRANSMITTING WHEN IN SUNLIGHT ONLY.

PLEASE ADD THE FOLLOWING TO THE DECAYED OBJECTS LIST

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1963 51A		US	18 DEC	20 DEC 63
1963 52A	COSMOS 24	USSR	19 DEC	28 DEC 63